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-THE SIGNAL INTELLIGENCE SERVICE
OF THE
GERMAN LUFTWAFFE

VOL. V

THE CHI-STELLE

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THE CHI-STELLE

OF THE

LUFTWAFFE SIS

FOREWORD

The German military structure possessed distinct signal intelligence services within its individual components, Army, Navy and Air Forces, each service highly specialized in its particular field. The Wehrmacht, also boasted its separate signal intelligence service. The central bureau of each of these SIS's was known as its Chi-Stelle.

Contained within this volume is a study of the organization, functions and activities of the Chi-Stelle of the Luftwaffe SIS. The study is both detailed and comprehensive since the author was assigned for upward of five years to the Warstall, by which name Luftwaffe SIS headquarters also was known.

Included also in this volume is the biography of the author. It is granted appearance at this place, not only for the reason that it further illuminates the subject study, but for the many interesting side lights it throws upon life in the Luftwaffe SIS, not to speak of war-time existence in Germany as a whole.

J.G. SEABOURNE
Colonel, Air Corps,
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THE CHI-STELLE

OF THE

LUFTWAFFE SIS

By

Technical Sergeant Karl Jering
Chi-Stelle, Luftwaffe SIS

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Luftwaffe SIS

I. Origin, 1936 - 1937.

A. General

The founding of the Chi-Stelle dates back to the year 1936, when Colonel (later General) Martini was commissioned to create a Luftwaffe Chi-Stelle, similar to those of the Army and Navy. As early as in 1935, civilian employees of the Luftwaffe had been sent to fixed SIS stations of the Army for training. A Luftwaffe officer and civilian inspector who had been associated with the Signal Intelligence Service during World War I, were transferred to the Luftwaffe Chi-Stelle. These two men canvassed for assistants among their old circle of acquaintances, former soldiers who had served in the previous war as intercept operators or cryptanalysts. In this way, of course, only the services of older men were obtained, and their number was by no means sufficient to the task at hand.

B. Initial Operations

After a rather small nucleus had been assembled, independent Luftwaffe intercept experiments were begun, in the summer of 1936, with traffic of the Italian, British, Polish, Czech and Russian air forces. The training of the radio operators was supervised by a small cadre obtained from the Reichswehr SIS (see biography of Major Feichtner). In 1937 the first Luftwaffe fixed SIS stations were founded in Munich, Munster and Potsdam-Eiche. They were manned with personnel recruited by the Chi-Stelle, and trained by the Army SIS.

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In those days, the Luftwaffe Chi-Stelle was only a small office, employing 10-12 people. Little sections, corresponding to the monitoring areas of the three out-stations, were formed. The first dealt with England, France, and Belgium; the second with Italy, and the third with Russia, Poland and Czechoslovakia. To these was added a small cryptanalytic group which served all three sections. The officer or inspector in charge of the Chi-Stelle was responsible for the proper employment of the personnel and radio sets of the out-stations.

C. Relation to Luftwaffe Headquarters

The material sent from the out-stations to the Chi-Stelle was classified according to tactical subject, and passed on to the General Staff. Since, at this time, the Chi-Stelle itself was part of the General Staff, and as such was responsible for SIS planning and personnel policy, its importance in this early stage was considerable.

II. Further Development, 1938 - 1939

A. General

In keeping with the general situation, which pointed ever more toward war, the SIS was greatly expanded during these two years. First, the nucleus of civil service employees was augmented by professional radio operators, most of them former seamen and globe-trotters. Since, however, this increase in personnel was by no means sufficient to the demand, more and more the policy of taking military personnel into the SIS had to be implemented. The activation of SIS battalions within the Luftflotte signal regiments was provided for in the event of war. This decentralization of SIS resulted in all the more loss of influence to the Chi-Stelle, especially at the outset of the war, when the military reigned supreme and basked in the limelight, even though the results obtained by SIS to date were not due to

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the still completely inexperienced military personnel, but rather to the efforts of the civilian employees entrusted with the actual work.

B. Organisation

In the beginning of 1938, a reorganization of the Chi-Stelle took place. "Referate" were created to correspond to the several sub-sections within the office of the A-2. Thus, there were newly formed or reorganized:

Referat A: Personnel, radio equipment of other countries, procurement of radio equipment, and liaison with the Luftwaffe Procurement Division.

Referat B: Great Britain.

Referat C: France and Italy.

Referat D: Russia, Poland, Czechoslovakia and the Balkans.

Referat E: Cryptanalysis.

Referat F: D/F evaluation.

With the exception of a few insignificant changes dictated by the military situation, this organization remained effective until the end of the war. Referat F, alone, disappeared from the scene in 1940, since common D/F evaluation of two countries in such widely different stages of radio development as England and Russia proved an absurdity. On the other hand, progressive planning and innovation took place within the other Referate. After the outbreak of war, the Referate were brought up to company strength rather quickly, while the Chi-Stelle itself was elevated to the status of a battalion within the signal regiment serving Luftwaffe Headquarters.

C. Technique and Results

With the start of the war, the Luftwaffe SIS was already an organization of some 1400 people. For a whole year prior to the war, the fixed SIS stations had

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been systematically covering the air force traffic of foreign countries. Their work was complemented by revealing press reports and other sources of intelligence, the results being that the High Command had a quite accurate picture of the air armament, deployment and strength of foreign air forces, as well as their organization and expansion. This intelligence enabled the German Command quickly to annihilate the Polish and French Air Forces during the first phase of the war. It also permitted the Luftwaffe SIS closely to follow the activity of the RAF, even after the commencement of hostilities, when the use of efficient cipher systems was immediately adopted.

When war began, each of the Referate dealing with foreign countries had compiled an opulent background of material on the alien air force with which it was concerned. Now this material constantly increased, and was studied carefully. Each Referat maintained close contact with its corresponding sub-section in the office of the A-2; these, in turn, lent SIS the benefit of their records and experience. The Referate exercised influence over the intercept operations of the SIS stations. On the other hand, preserving elasticity and system in the conduct of operations was, of course, rendered more difficult by the profusion of SIS units activated with the outbreak of war.

In peace-time, the Chi-Stelle and its fixed SIS stations had formed a smoothly working, homogeneous entity. In contrast, the war now caused each Referat to develop individually, according to events on the various fronts. This tendency was furthered by the fact that, from the fall of 1940 on, the Referate took to the field, following the A-2's they served to their respective theatres of war. However, they continued to retain the functions and prerogatives previously exercised by the Chi-Stelle within the Signal Intelligence Service.

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D. Liaison

Relations between the Chi-Stelle and the General Staff had been very close from the start. On one hand, this was due to the fact that the A-2 and the Chi-Stelle were a part of the same headquarters, the German Air Ministry; on the other, the A-2, having received SIS reports in peace-time also, realized the true value of the SIS. Although the W-Leitstellen had a wearisome struggle to attain recognition from their respective Luftflotten, the A-2 of the Luftwaffe General Staff shaped his reports more and more around signal intelligence, and enlisted the aid of SIS in all pressing problems. In the beginning of 1939 there were even plans afoot whereby the SIS would have been entirely assimilated by the General Staff. These failed because of the opposition of General Martini who did not relish losing his hold on so valuable an instrument as SIS, with its auspicious prospects for the future.

III. The First Years of the War, 1940-1941A. General

Immediately following the start of the Polish campaign, the Chi-Stelle moved from Berlin to the Marstall, the riding academy of Frederick the Great in Potsdam-Wildpark. "The Marstall" became a sort of second name for the Chi-Stelle, since it remained there until just before the German collapse. In other respects the first six months of the war brought little change to its ministerial methods of working, or its relatively extravagant manner of existence; only by the middle of 1940 did the newly-inducted military personnel gain ascendancy over the civil service employees in the Marstall. Meanwhile the development of the SIS battalions assigned to the Luftflotten had been exploited primarily from the military point of view; to which tenets these battalions, no more than the Chi-Stelle, could reconcile their real SIS interests. Since even the SIS companies assigned to the

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individual Fliegerkorps worked independently of the W-Leitstellen, molding their activities to conform to the requirements of the combat units they served, the decentralization of SIS at first seemed to be very far-reaching.

Thus, in this first phase of the war, the importance of the Chi-Stelle was sharply reduced. The tremendous expansion within the SIS had resulted in the employment of a number of untrained personnel, in part radio operators from the Luftwaffe Signal Corps, in part linguists from other Luftwaffe units who had been transferred to the SIS. The out-stations were placed on their own, and had to be prepared to meet the demands made of them. In addition, problems presented themselves during the first months of the war which had never been conceived of in peace-time. For these reasons, the focal point of SIS shifted at this time quite definitely to the W-Leitstellen, and to those individual out-stations which were especially favorably situated and capably commanded; compared with which the Chi-Stelle was scarcely more than an administrative office or registry bureau.

To meet this development, the Chi-Stelle expanded its Referate to an extent where, by the end of 1940, they were already almost as large as the Leitstellen. Thereupon, owing solely to its relations with the General Staff, it proceeded to exercise operational control over the Leitstellen. Moreover, requests for personnel and special signal equipment on the part of the Leitstellen had to be approved by the Chi-Stelle. In this manner it continually remained the central administrative organ of SIS. Over and above this purely administrative function, however, it remained in constant touch with all SIS problems, thanks to its Referate. This was especially true during the first period of the war, when it was accustomed to maintain direct contact with the Leitstellen, as well as with each individual out-station. This achieved the purpose of assuring a rapid exchange of fundamental intelligence within the SIS domain. On the other hand, the

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a. Operational Planning

In this section was done all the planning for monitoring operations on the several fronts. Responsibility also rested in this section for the preparation of Tables of Organization and Equipment, and the allocation of personnel to SIS units. In view of the rapid expansion and continuous growth of the SIS over the period of the war, this represented a considerable task. (See Figure No. 1 and 2).

b. Personnel

Here were handled routine personnel matters not only pertaining to the Chi-Stelle itself, but to the entire SIS.

c. War Diary

From the outbreak of the war, an officer was detailed to maintain a diary of the SIS activities. At first this was done in the Marstall, later in the historical section of the General Staff.

d. Procurement

This section was responsible for the procurement of all special signal equipment for the SIS.

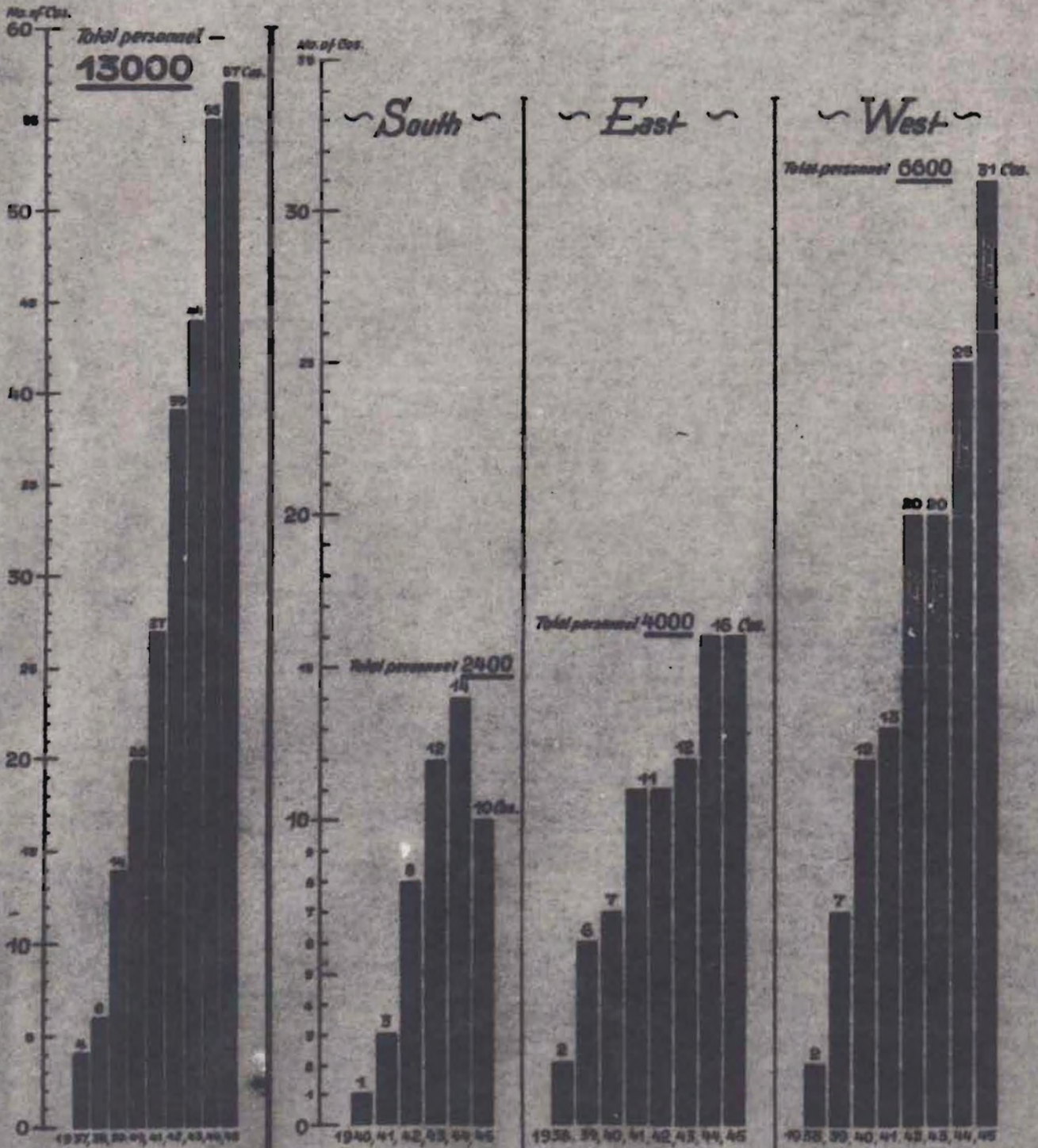
e. Research

Here captured equipment was examined and later repaired and made serviceable for German use. It was also incumbent upon the technicians of this section to maintain liaison with the Luftwaffe Office of Technical Equipment (TLR).

The management of this Referat was not subject to much change. A portion of it accompanied the Chief of the Chi-Stelle to Luftwaffe Advanced Headquarters on the Eastern Front; the technical research section, however, spent the

Growth of the Luftwaffe SIS

Figure No. 1



Assignment of SIS Battalions to the Individual Luftflotten

~ as of June 6, 1944 ~

Luftwaffe Headquarters <i>Berlin</i>	SIS Battalion 350	Chi-Staff
Luftflotte 3 <i>Paris</i>	SIS Regt. West	<i>Allied W/T and R/T traffic in the West-Atlantic Ferry Command - ATC - Radar intercept and Jamming.</i>
Luftflotte 5 <i>Oslo</i>	W-Leit 5	<i>RAF Coastal Command and OTU's - Russian traffic in Finland.</i>
Luftflotte Reich <i>Berlin</i>	SIS Battalion Reich	<i>Flight path tracking of Allied heavy bombers over Germany.</i>
Luftflotte 2 <i>Abruzzo</i>	W-Leit 2	<i>Allied W/T and R/T traffic in the western Mediterranean - Radar intercept.</i>
Luftflotte Southeast <i>Panzer</i>	W-Leit Southeast	<i>Allied W/T and R/T traffic in the eastern Mediterranean - Radar intercept - Russian Black Sea Naval Air Force.</i>
Luftflotte 4 <i>Bratislava</i>	W-Leit 4	<i>Southern sector of Russian Front.</i>
Luftflotte 6 <i>Minsk</i>	W-Leit East	<i>Central sector of Russian Front.</i>
Luftflotte 1 <i>Riga</i>	W-Leit 1	<i>Northern sector of Russian Front.</i>

Figure No.2

entire war in the Marstall. Personnel of the Referat comprised civil service employees, and a few officers and enlisted men.

2. Referat B

This Referat had already compiled excellent records on the RAF during peace-time (see biography of Capt. Huebner, Vol. II). It possessed a thorough knowledge of the organization, locations, strength, aircraft types, and personnel and supply situations of the RAF. When, after the outbreak of war, the British began to encipher their radio traffic, and intelligence from other sources also became less prolific, it was rather impossible to maintain as all-embracing a picture of the RAF as previously. However, the Referat continued to work systematically and successfully on all problems of interest to the General Staff. Especially important was the fact that, thanks to documents captured in the first days of the war, RAF reconnaissance messages could be immediately decoded. This necessitated the creation of a tactical evaluation section which worked in closest co-operation with the German Navy. Attention was also drawn to the work of the R/T evaluation section of the Referat when the entire Luftwaffe was hurled against England in an effort to annihilate the RAF Fighter Command.

Until the conquest of France, W-Leit 2 and its several out-stations had supplied the Referat with the material for its evaluation work. After the occupation of Norway, W-Leit 5, with various out-stations, was established in Oslo to monitor the northern sector of the British Isles. Shortly thereafter, W-Leit 3, which originally had intercepted French traffic, was transferred to Paris to monitor the RAF. As a result, the Referat was now performing the final evaluation of the work of three SIS battalions. The attention of the German High Command was devoted solely to the war in the West. This was indicated by the transfer of a substantial part of the Luftwaffe General Staff to France in September, 1940. In October they

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were joined by the headquarters of the Chi-Stelle and Referat B, which at that time was by far the most important of all the Referate. For the Chi-Stelle battalion staff the sojourn in Paris was of short duration; it returned to the Marstall in December to prepare for the Russian campaign. Referat B, however, remained at Asnieres-on-the Oise (30 Km. northeast of Paris) until the American breakthrough at Avranches forced the Germans to withdraw from France.

The move to France had a very favorable effect on the work of the Referat. Firstly, its location in the vicinity of SIS battalions and out-stations rendered co-operation with them much more feasible than had been possible from the Marstall. Secondly, the emancipation of the Referat from the office-like atmosphere of the Chi-Stelle permitted it to adapt its work to meet the tactical and strategic requirements of the war situation. The increase in intercepted material resulting from the intensive monitoring of Britain necessitated a corresponding increment to the Referat in personnel, and in the middle of 1941 it reached its maximum strength of approximately 60 men. Since the newcomers were military personnel, either of excellent linguistic ability or possessing other important qualifications, the old civil service employees of this Referat finally faded into the background.

The fortunes of the Referat took a sharp rise when, after a rapid turnover of less capable officers, Captain Feichtner, who was already known by virtue of his activity in connection with the SIS school at Soecking, was appointed Chief of the Referat. The new chief, supported by Colonel Gosewisch of General Martini's office, made certain that the Referat would have its appropriate position in the rather drastic reorganization of the SIS in the West, made necessary by the withdrawal of W-Leit 2. The Referat itself was then completely reorganized with

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regard to personnel and division of work; the best evaluators were used to create a final evaluation section to prepare the newly-introduced monthly reports. Perhaps the greatest contribution made by Capt. Feichtner during his three months' period of service with Referat B was the fact that, by calling in a capable inspector technician, he provided the "sine qua non" for a navigational aids evaluation section, the proficiency of which was unrivalled by any other department of the Luftwaffe.

During the first half of 1941 an SIS company was activated in Asnieres as a part of the Chi-Stelle battalion. It was composed of three platoons: the first comprised the personnel of the Referat; in the second were found cryptanalysts who were summoned from Paris to Asnieres to assist in the work of the Referat; the third, a rather large W/T intercept platoon, was placed in a neighboring village in the summer of 1941 to monitor traffic from America, for which purpose a special antenna system was erected. This company, including its overhead personnel, had an average strength of over 400 men. In contrast to the SIS battalions, where administrative and operational command had very early been combined in the person of the battalion commander, these two functions remained segregated in the Chi-Stelle until the end of the war. This may indeed have been done to assure the Referate chiefs greater freedom of action compared with other commanders who were burdened with administrative duties. From the standpoint of the enlisted men, many unpleasant incidents, especially in the first years of the war, arose from the inevitably strained relations existing between their military commanders and their superiors in the Referat. However, these were held within reasonable bounds since, within the Chi-Stelle, the polite atmosphere of a higher headquarters was always maintained.

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The second half of 1941 brought further changes to the modus operandi of the Referat. Work within the individual sections became more specialized and attained greater polish. For example, within the fighter R/T evaluation section alone there were separate specialists for 11 Fighter Group, for 9 and 10 Fighter Groups, and for night fighters, OTU's, and unidentified HF R/T. In addition there were men who specialized in more comprehensive fields. For example, the very extensive and important daily report of the Referat which was sent to the General Staff as a picture of the air situation in the West, was for years prepared by a single individual. This man, in spite of being only a technical sergeant, performed his work in such an excellent manner that he later became SIS liaison officer to the Luftwaffe General Staff. A representative example of the calibre of the evaluators was Sergeant (later 2nd Lieutenant) Ludwig, who was familiar with all phases of the Referat's work, and who described the operations of the SIS in the West in Volume VII.

3. Referat C

After the reorganization of the ChI-Stelle in 1938, Referat C was entrusted with the evaluation of French and Italian traffic. Owing to the change in German foreign policy, monitoring of Italy gradually dwindled, until, following the entry of the Italians into the war as Germany's allies, the interception of their radio traffic was forbidden by Reichsmarschall Goering himself. From that time on, Italy was only monitored clandestinely and without the knowledge of the Reichsmarschall. On the other hand, the interception of French traffic, which was accomplished by W-Leit 3 and its out-stations, proved very fruitful. A comparison of reports sent by Referat C to the General Staff and captured documents of the French Air Ministry bore testament to this. After the conclusion of the French campaign the work of this Referat was in reality terminated, although its personnel luxuriated for almost a year in winding up matters.

From the start of the war a specialist of Referat B had been appointed to deal with RAF overseas radio traffic. This traffic was intercepted by the fixed SIS station in Oberhaching near Munich. In the spring of 1941, following the conquest of the Balkans, the Luftwaffe decided to use bases in Italy as well, for participating in the battle for the Mediterranean. In conjunction with the movement of strong air force elements into this area, it was also planned to set up a number of SIS stations. Accordingly, this small sub-section, which meanwhile had been increased in size to three men, was recalled to the Marstall in May of 1941. It was intended that this group provide the nucleus of a final evaluation section for RAF Mediterranean and Near East traffic, and for this purpose it was strengthened by the addition of several English-speaking evaluators from the "French" Referat. Because of the great distances between Potsdam and the new theatre of war, inadequate signal communication with out-stations, and difficulties in matters of personnel, it was a relatively long time before this new Referat C could produce any valuable results.

4. Referat D

a) General

In peace-time this Referat evaluated traffic intercepted from Russia, Czechoslovakia, Poland and the Balkan States, and kept the General Staff briefed on air activity in these countries through current reports. After the subjugation of these smaller countries, it concentrated entirely on the Soviet Union which had been considered of prime importance from the beginning. Owing to the different structure of the SIS in the East, the growth and development of this Referat varied essentially from that of Referate B and C. Whereas in the West and South crypt-analysis had to be abandoned to a certain extent, and the main emphasis from the beginning of the war was on traffic analysis and R/T evaluation, in the East the

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majority of enciphered messages could be read, which placed SIS work on this Front in a quite different aspect. A further fundamental distinction was that in the West the enemy emerged practically each month with a new and revolutionary radio or radar technique, while the four years' struggle in the East brought relatively few technical innovations. To this was added the fact that during the course of the war each of the Russian air armies developed its own particular radio procedure, the individual evaluation of which, of necessity, had to be left to the SIS battalions located on the various sectors of the Front which were specialists on this subject.

Thus Referat D, more than any other Referat, had to limit itself to a compilatory career, which can be covered only briefly here. It began its activity in the Marstall, in the wake of German advances at the beginning of the campaign in the East (end of 1941) it moved to Niedersee in East Prussia. From here, in view of the large-scale operations planned on the southern sector for the spring of 1942, it followed the General Staff to Zitomir, where it remained until May, 1943. The Russian advance caused its retreat to Warsaw; where, at the beginning of 1944 it set up a Meldekopf which was incorporated into the SIS defense system of the ZAF. When, after the breakthrough at Minsk, the Russians began to threaten Warsaw, it moved again to Cottbus, south of Berlin. There, toward the end of 1944, it was merged with the regimental evaluation company of SIS Regiment, East, which was formed at about that time.

b) Organization and Operations

Only during the first two years of the war did the Referat send its daily and fortnightly reports directly to the General Staff. At the end of 1942 an SIS liaison team was established in the office of the A-2 to deal with signal

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intelligence originating in the East. The reports of Referat D were almost unintelligible to a non-specialist, since they were crammed with technical data and terminology; hence they were edited and rewritten by this liaison team. Owing to the uncomplicated aspect of the work, the Referat comprised only a few but highly qualified men; in all there were only ten members. A rather large crypt-analysis platoon was attached to the Referat. At its height the platoon consisted of about ninety men, but its importance dwindled appreciably in the last years of the war. The reason for this was that Russian cryptographic systems became ever more individual in character, and central treatment of them was found to be impractical.

There was also attached to the Referat a large W/T intercept platoon which monitored the point-to-point networks of the Russian rear defense zones. An SIS company in Rzeszow, later Namslau, sent material intercepted to the Referat by teletype; it was deciphered by the cryptanalysis platoon and the intelligence therein incorporated into the daily report. The second main source of material for these reports were teletyped summaries from the three SIS battalions in the East. From 1943 on, R/T traffic from Russian tactical aviation units increased in significance, even being important to final evaluation. During the latter years of the war it was particularly important on the northern sector where good land-line communication limited the use of W/T.

"Meldekopf Warsaw" consisted of a team of about ten men. Since Russian long range bombers were active only at night, its personnel, radio operators and evaluators alike, was only occupied during the evening hours. If traffic were intercepted on any of the known bomber frequencies it was reported immediately to the ZAF as an early warning. Neither the radio discipline nor navigational ability of the Russian bomber crews was comparable to that of Allied crews in the West. Therefore, as a rule, the Meldekopf was able to report to the ZAF,

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and to other appropriate headquarters, the exact strength, composition, and probable target of an enemy bomber formation. This information was usually determined, at the latest, while the Russian bombers were crossing the front lines.

5. Referat E

a) Development

From October 1935 until the spring of 1937 certain interpreters newly employed by the German Air Ministry were sent to fixed SIS of the German Army in Koenigsberg (monitoring of Russia and the Baltic States), Treuenbrietzen (Russia), Breslau (Czechoslovakia and Poland), Munich (Italy), Stuttgart (France) and Munster (Great Britain). After a period of training they were assigned to Luftwaffe SIS stations.

Instruction in cryptanalysis was not provided for, nor did it take place. Several of these civil service employees had contact, by chance only with this field of endeavor and familiarized themselves with its general outlines.

After the creation of the Luftwaffe SIS in 1938, Referat E was formed within the Chi-Stelle, thenceforth to be entrusted with all deciphering work. In October 1938 a four weeks' training course was set up in Berlin for students of cryptanalytic methods in the West; in the spring of 1939 a similar training course was instituted for the East. Various evaluators of individual fixed SIS stations were detailed to attend these courses.

At the outbreak of the war there were available 15-18 decipherers, 10 of whom were familiar with the cryptographic techniques of the Western Powers, but none of whom could be termed a good cryptanalyst. Later these men were all weeded out of the Referat. To assist in the work, which was now becoming most

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plentiful, the Chief Signal Officer assigned 50 newly-inducted enlisted men to Referat B, none of whom had had any previous training in cryptanalysis. These men were promptly put to work on extremely pressing tasks, and learned their trade by practice rather than by theory.

The development of cryptanalysis in the following years took place in such manner that a new, rather difficult cryptographic procedure was first explored by the Referat in the Marstall. Later, if the deciphering process had been established in detail, a team of cryptanalysts, familiar with the system, was sent to that SIS battalion or company where the greatest amount of traffic in that particular system was being intercepted. Thus, eventually, personnel of Referat B was scattered over all of Europe.

The Referat expanded continually, and toward the end of 1942 reached its peak strength of approximately 400 men. Subsequent policy which formed the release of physically-fit men to combat units and their replacement by women auxiliaries caused cryptanalysis to suffer many a set-back. However, the more important systems were broken up to the very end, and even in January 1945 the Referat could boast of having broken 35,000 messages in the West and 15,000 in the East, during the month (the Referat was divided into two completely separate sub-sections, one for the East and the other for the West).

The chief of the Referat was an inspector-technician who, until 1943, had no officer assistants, even though he was continually compelled to visit outlying SIS units in the course of his work. A great difficulty which existed was that the Referat could exercise no definite influence on the number or location of intercept receivers covering traffic in which it was interested. This often caused

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considerable delay and in some cases made deciphering impossible. Similar conditions prevailed in the German Army SIS, while in the Navy the chief of cryptanalysis was able to make his influence felt in the direction of intercept cover. For further details on the cryptanalytic efforts of Referat B, and the success with which they met, the reader is referred to Volume XIII.

b) Training

After a few hours of instruction in fundamental concepts, would-be cryptanalysts were put promptly to work on cryptographic systems the solving of which was in various stages of advancement. After a few weeks the novice was then shifted to a new procedure so that, with time he could learn the different methods of solution. The emphasis was on breaking a system quickly; instruction in matters of theory was of secondary consideration.

The advantage of this method, conditioned by necessity, was that individuals could learn, in the shortest possible time, to successfully decipher certain well-known systems such as Bomber Code, British Main Weather Code, etc. Of course, these same men failed completely when attempting to break a simple, alphabetic, unreciphered 3 or 4-figure code, even if an ample depth of messages were available. The long duration of the war gradually neutralized this disadvantage since each cryptanalyst, little by little, had the opportunity of working on entirely different systems.

In general, experience showed that men over 35 years of age, even with other propitious qualifications made below-average cryptanalysts. Professional men, especially mathematicians, lawyers and philologists who were quite numerous represented in the SIS, with individual exceptions proved unsuitable for practical deciphering work. As a rule they exhausted themselves in laborious analytical

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research, even producing evidence proving a system incapable of solution, only to find that in the meantime it had been already broken by another group. The best results were achieved with young people who had completed their high school education or had just entered a university.

IV. The Chi-Stelle from 1942 to the End of the War (See Figure No. 3)

A. General

The great widening of the battlefronts and the prodigious expenditure of men and materiel forced the German Command, following the first grim winter in Russia, to adopt radical economy measures. Thus, the Luftwaffe Signal Corps, which had suffered relatively slight losses, was referred to the pool of women workers for its replacements, since the reservoir of able-bodied men was henceforth earmarked exclusively for the front.

The importance of radar intercept, moreover, which by the middle of 1942 had finally passed the experimental stage, was decisive to the development of the SIS in the West and caused significant structural changes. At the same time, as German strategy swung to the defensive, the SIS emerged as the most reliable and richest source of intelligence. As the Allied air offensive unfolded, its importance to the defense of the Reich became apparent; not only the High Command, but tactical headquarters as well were, from then on, concerned that its organization be an effective one. Since the beginning of the war, command of the Chi-Stelle had changed hands frequently, but none of its leaders had fully measured up to requirements. Therefore, a young General Staff officer with excellent connections, and who enjoyed a fine reputation within the inner circle of the General Staff, was entrusted with command of the Chi-Stelle.





Disposition of the
Luftwaffe SIS

as of 6th June 1944

— Legend —

* Fixed SIS station operating under cover-name "Purchasing Agency"

Figure No. 3

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At the same time the SIS, at least in the West, was freed from the administrative guardianship of the signal regiments of the Luftflotten by the creation of an independent SIS regiment. This regiment had three battalions, one of which was devoted exclusively to radar intercept. This stronger centralization had a favorable effect on future development. The number of impediments to which a relatively young branch of the service is inevitably subjected was considerably reduced by the excellent relations between the Chief of the Chi-Stelle and the General Staff and Chief Signal Officer.

At the end of 1942 the Radar Intercept Control Center was created in Potsdam-Eiche for the central evaluation of the results of radar intercept. Meanwhile radar intercept centers were also brought into being at the W-Leitstellen of the Luftflotten, and gradually within Germany proper as well. In the Chi-Stelle a specialist was entrusted with determining policy and planning the expansion of the Radar Intercept Service, while the development of methods and techniques was left to the capability and initiative of the out-stations and the Chiefs of the Referate. The contribution of the Chi-Stelle was essentially one of administration and supply.

The Chi-Stelle limited itself to this field in an increasing measure, the more as the emphasis of signal intelligence shifted toward tactical evaluation. From 1943 on it was no longer much distinguished by creative ideas. In retrospect it became evident that the choice of an officer with no signal or intelligence training as chief of so highly specialized a service was not exactly a fortunate one. Briefing of the General Staff was the direct function of the Referate. Each Referat chief, in proportion to his ability, made the influence of his Referat felt on the evaluation work of the respective Leitstelle. Except for personnel matters, those Leitstellen which were capably commanded were completely independent of the Chi-Stelle.

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Many times they even procured special signal equipment or communication facilities from the tactical units they served, rather than go through the normal Chi-Stelle channel.

The Chi-Stelle also failed, when the time was propitious, to mold the SIS into a comprehensive and exclusive organization with its own military standards. On the contrary, in the fall of 1944 when SIS regiments were formed in the West, South, and East, two extraneous posts were created; that of an SIS chief for administrative matters and that of "Funkaufklaerungsfuehrer Reich" for SIS matters pertaining to the defense of Germany. Neither of the men appointed to these posts was able to weaken the position of Lt.Col. Friedrich, the chief of the Chi-Stelle. During those last months when the very air was laden with the atmosphere of defeat, the sole endeavor of this triumvirate was to dodge responsibility themselves, whilst shifting it upon the shoulders of the regimental commanders.

As always, the Chi-Stelle's claim to fame lay in the performance of its Referate on the various fronts. The acclaim which its reports received was for the most part owed to the specialists in these sections. At the out-stations, a man who had come from the Marstall was held in disdain.

B. Organization

Despite the significant and fruitful progress of which the SIS could boast since 1942, the structure of the Chi-Stelle had undergone virtually no change since the beginning of the war. The development of the SIS had taken place along two main lines. One was found in the rise in importance of tactical evaluation (resulting from early warning and flight path tracking) from 1943 on. The development of tactical evaluation was fostered by the increasing strength of Allied air raids on

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the occupied countries and Germany proper, and it finally far exceeded the importance of strategic evaluation. This work was stimulated by young and capable SIS officers and culminated in the creation of the ZAF, a central Meldekopf for the defense of the Reich. The Chi-Stelle remained both indifferent and helpless in the face of this development, with the result that the position of "Funkaufklaerungsfuehrer Reich", a parallel headquarters to manage SIS matters pertaining to the Reich's defense, had to be finally created. Secondly, the unification of the SIS, which already by 1942 had expanded into an organization of division strength and was urgently in need of an independent administrative system in consideration of its special function, finally, in the second half of 1944, proved most necessary. Discussions looking toward a solution of this problem, had already begun in 1941. Any decisive action however was postponed from year to year. In this case, also, the Chi-Stelle failed completely; since it had planned and supervised all SIS operations from the beginning, it might easily have been the central administrative authority also. Thus, the administration of the SIS was placed in the hands of one of the many supernumerary Luftwaffe Signal Corps generals, thereby placing the fate of the SIS regiments and their battalions in the South and East likewise in the same hands. The Chief of the Chi-Stelle himself finally turned over his "alter ego" position as battalion commander to a reserve officer, unqualified for any more military post. From 1941 to 1944 the SIS battalion in the Marstall consisted of:

(See Figure No. 4)

- a. A company in the Marstall which comprised the personnel of Referate A, C and E;
- b. A company in Asnieres comprising the personnel of Referat B, part of the personnel of Referat E, and an intercept platoon;
- c. A company in Zitomir, later Warsaw, comprising personnel of Referat D and a large intercept platoon and Meldekopf;

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Organization of Headquarters, Luftwaffe Signal Intelligence Service

as of June 6, 1944

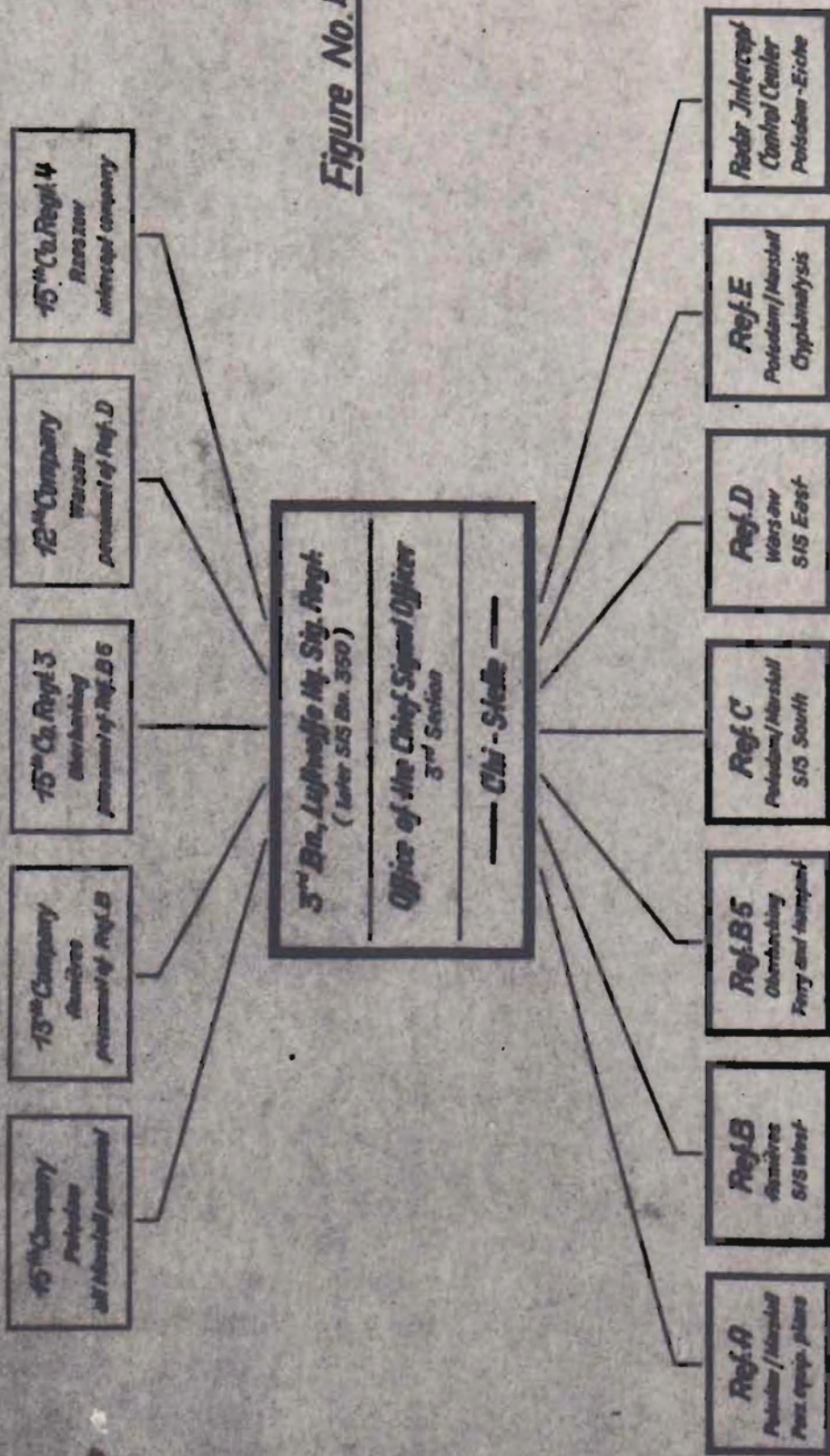


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- d. A company in Munich/Oberhaching comprising personnel of Referat B5 and an intercept platoon to monitor the United States;
- e. An intercept company in Rzeszow which monitored Russian point-to-point traffic.

After the withdrawal from France the company in Asnieres was dissolved and Referat B, greatly reduced in personnel, was incorporated into the evaluation company of SIS Regiment, West. The company in Rzeszow, which had moved to Namslau in the middle of 1944, was transferred to the SIS Regiment, East, to which, for all practical purposes, it already belonged. Likewise, Referat D was incorporated into the evaluation company of this regiment when the latter left Cottbus and retreated to the southwest under pressure of the Russian advance. In February 1945 even the Marstall had to be abandoned in the face of the Red Army's drives.

In the fall of 1944, the Chi-Stelle battalion, as had been the case with all other SIS battalions, became independent of the Luftwaffe Signal Corps Regiment to which it had been assigned. Command was taken over by a captain who was given the prerogatives of a regimental commander. It was renamed "SIS Battalion 350" and retained its previous function of planning for the entire Luftwaffe SIS. In reality the situation had not changed at all, since, in spite of the battalion commander (Captain Jordens), the administrative chief (Brigadier General Klemme) and the "Funkaufklaerungsfuehrer Reich" (Colonel Forster), Lt. Col. Friedrich, as the representative of the Chief Signal Officer, remained the supreme authority until the very end on all SIS matters of decisive importance.

C. Liaison

The Referate were the supreme authority on all evaluation questions arising between the regiments (and battalions) and the Chi-Stelle. They furnished intelligence directly to the General Staff where an SIS liaison officer had been assigned

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since 1942. Section III of the Office of the Chief Signal Officer only had intercourse with the individual battalions and regiments insofar as to give general overall orders or to make known the wishes of the Chief Signal Officer. The final preparation of reports lay in the hands of the Referate. However, the distribution given to these reports, as well as to those of SIS evaluation companies in general, was still the concern of the Chief of the Chi-Stelle, acting in consultation with the Chief Signal Officer.

Liaison with the SIS of the Army and Navy, as well as with the Wehrmacht Radio Defense Corps was carried out by both the Referate and the Leitstellen, which exchanged reports with Army and Navy SIS centers located in their respective areas. However, owing to the extreme secrecy which surrounded all SIS activity, much was also left to chance. Thus, for example, the close and happy liaison between the Luftwaffe SIS and the Radio Defense Corps on matters pertaining to partisan activity in the Balkans was founded on the fortuitous acquaintanceship of two lieutenants, who, in spite of general instructions to the contrary, exchanged intelligence on this subject. The three Chi-Stellen sent each other their reports, and in the case of the Luftwaffe, these were studied by the individual Referate. Since 1942 a liaison officer from Referat B had been assigned to the Army SIS center in St. Germain, but no special benefits were derived from this close association.

The extent of co-operation and liaison with the signal intelligence services of Germany's European allies was decided by the Chi-Stelle, but the execution of the policy determined was left to the SIS units located in these various countries. The only one of these signal intelligence services which compared with the German in quality was the Finnish SIS, which had made excellent progress in the cryptanalysis

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f Russian systems. Experiences with the Italian and Hungarian SIS are discussed in those volumes dealing with the history of the Luftwaffe SIS in the South and East, or in the Biographies of the SIS battalion commanders concerned.

Direct liaison between the Japanese SIS and the Luftwaffe Chi-Stelle did not exist; contact with the Japanese on air signal intelligence could only have taken place through the Wehrmacht Chi-Stelle, which regularly received the monthly reports of the Referate. To what extent these reports, either in whole or in part, were passed by the Wehrmacht to the Japanese SIS cannot be said. It would seem probable that records and reports in special fields such as the 8th USAAF or Allied navigational procedures, in which Japan was especially interested, would have been furnished to her by the Wehrmacht Chi-Stelle. In the last year of the war, and at the request of the Japanese, it was intended to send a German SIS mission, comprising specialists of the Luftwaffe, the Army, and the Navy, to the Pacific. Strangely enough, the Japanese had requested only MF and HF specialists, not being interested, apparently, in the fields of VHF and radar intercept and jamming. The working out of plans and preparations for this mission was done by Major Mettich and Captain Grotz, under the direction of the Chief of the Wehrmacht Chi-Stelle, Colonel Kettler. Owing to the ever-deteriorating military situation in these two remaining Axis countries, the plan never materialized.

D. The Individual Referate

1. Referat A

When the Chi-Stelle was taken over by a General Staff officer in the spring of 1942, it was thereby brought to the attention of certain military circles which hitherto had displayed no interest in its development. At the same time it resulted in the Leitstellen being supported in a previously unaccustomed manner.

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In order to meet the increasing demands within the SIS for personnel and equipment, the Chi-Stelle had to initiate a strict management control policy. There were also the problems of development and procurement of radio receivers. This involved negotiations with the manufacturers, who demanded notification long in advance, if they were to furnish equipment by a specified date. Typical of the relative regard in which the two Fronts were held was the fact that the most important position in this Referat, that of personnel officer, was never in the entire course of the war occupied by an experienced man from the West, but for the longest time was held by an officer whose only experience had been on the Eastern Front. The same was true of Lt.Col. Friedrich's personal staff, which did not boast one officer who had attained his SIS experience working against the Anglo-American Allies. Thus the higher circles of the Chi-Stelle were quite without understanding of the complicated problems existing in the West and South. This situation was not improved by the fact that a university professor of electronics was chosen to head the radar intercept section who, indeed, possessed a fundamental theoretical knowledge of the situation, but who had absolutely no conception of the tactical side of this work which was so important in the West. Thus may be censured both the short-sighted policy of Referat A with regard to personnel, as well as the indecisive and dilatory manner with which it handled urgent problems affecting the entire SIS. This deficiency was all the more apparent since the Referate dealing with foreign countries were purely evaluatory organs, and could bring to bear no influence on these administrative problems.

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2. Referat B.a) General

In contrast to other units and sections of the SIS, Referat B maintained a constant, purposeful policy toward its own personnel. When the former chief of the Referat was called back to the Marstall in the summer of 1942, his place was taken by a young, enthusiastic career officer who swept away the last vestiges of the stagnant civil service regime from the Referat. He instituted a system of daily conferences and secured the services of a number of experienced combat officers to advise the evaluators in the various sub-sections. This served greatly to lessen the bureaucratic atmosphere which had prevailed. After a short time he was relieved by 1st Lt. Becker who was an authority on all matters of evaluation. Under him the personnel of the Referat was continuously trained, and was accorded all privileges possible. Military functions, such as drilling and the construction of trenches, were held down to a minimum. This, in turn, had the effect of making the men work with vigor and enthusiasm. Comradeship in this Referat, as well as the relations between the enlisted men and officers, was excellent.

At the end of 1942 part of the personnel was replaced by women auxiliaries. Shortly before the Invasion the Referat consisted of 4 officers, 3 inspector technicians, 45 enlisted men, and 25 women auxiliaries. After the German withdrawal from France in August 1944, the Referat was merged with the evaluation company of SIS Regiment, West. This eliminated much duplication of work and the personnel could be reduced by more than half. When the Americans threatened Limburg, the Referat moved to Bad Tuerckheim in Bavaria where it was dissolved in the course of events.

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b) Organization

The expansion of the RAF and the arrival of American air units in the British Isles occasioned an increase in Allied traffic intercepted daily. This made necessary a reorganization of Referat B, which was accomplished gradually in the course of 1942. Later on the sections of the Referat were organized to correspond to Allied units rather than according to types of radio traffic. The following picture was the result:

- A Referat Chief and his assistant;
- A tactical evaluation section which dealt with RAF Coastal Command messages and, during the Invasion, with air support party traffic;
- A bomber evaluation section, divided into RAF and USAAF sub-sections, which was concerned with the strategic evaluation of this traffic;
- A section for the evaluation of captured documents, captured signal equipment, and navigational aids;
- A section for the evaluation of tactical air force radio traffic (formerly the fighter evaluation section);
- A strategic evaluation section for Coastal Command traffic;
- A Ferry Command evaluation section which in 1943 was merged with a similar section of Referat C and became an independent Referat in Munich/Oberhaching.

The Referat also had its own photostatic reproduction and drafting section. The teletype installation and telephone switchboard belonged to the company and, from 1943 on, were operated exclusively by women.

c) Evaluation

As the highest SIS evaluation agency in the West, Referat B had to examine, compare, and edit the work of all SIS units employed in the West and the North. These comprised:

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SIS Regiment, West, and later also, the independent SIS Battalion 357 (long range bomber traffic);

SIS Battalion 355 (formerly W-Leit 5) in Oslo.

In part, the Referat worked with reports sent to it by the intercept and evaluation companies; in part, also, with the original log sheets and messages. The latter method was used especially in the case of R/T traffic, since the spoken word is almost always capable of varied interpretation. The material available to the Referat for its work consisted of:

- aa) Daily reports from the evaluation companies and from some of the intercept companies. These were usually sent by teletype, but in some cases arrived by radio or by courier.
- bb) Copious technical reports and evaluation reports which the intercept companies had to prepare monthly.
- cc) Certain W/T and R/T log sheets.
- dd) Reports of PW interrogation, reports on captured documents and equipment, BBC and press reports, and other collateral intelligence material. The interpolation of this material with signal intelligence was strictly forbidden; any reference to outside sources in SIS reports had to be indicated. It was only to be used to provide a richer background and to complement or confirm signal intelligence results. Any use of such collateral intelligence in SIS reports, without reference to source, brought a sharp reprimand from the A-2 to the chief of the Referat.

In cases where intelligence on a certain topic was quite complete, the specialists of Referat B had only to keep themselves informed on the subject, and to make sure that any changes were quickly recognized and reported to the

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headquarters concerned. Where new major problems developed in the West, such as the appearance of the U.S. Army Air Forces in the UK, it was the duty of the Referat, by employing its best evaluators, to expedite clarification of these problems.

It proved very advantageous that the personnel of Referat B belonged not to SIS Regiment, West, but to the Chi-Stelle. Because of this all intelligence could be reported (and when necessary refusals to divulge certain intelligence) without reference to rank or station. The last two chiefs of the Referat especially were adroit at using the prestige of their station to maintain a close check on evaluation work in the West. On the other hand much duplication of work was occasioned by the Referat's special position. The only possible solution, that of merging the Referat and the regimental evaluation company, was only realized as a result of enemy pressure, when both Referat B and the SIS Regiment, West, following the breakthrough at Avranches, had to beat a hasty retreat from France. Owing to the difficult housing situation within Germany, the Referat and the evaluation company were established in the same house in Limburg, and worked together in closest co-operation. As each case arose it could be discussed, and an agreement reached as to whether a certain special report or appreciation would be written by the company or the Referat.

d) Direction of Intercept Operations

Outside of final evaluation, the direction of intercept cover in the West and North was the most important task of the Referat. All SIS stations understandably had the desire to monitor only that traffic which yielded results visible outside the realm of SIS. In the face of this the Referat had to insure that not only this type of traffic was covered, but also those frequencies necessary to obtain an overall picture. For example, several intercept companies could only be moved under pressure to cover the point-to-point networks of the RAF and the

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AEAF, since no tactical messages which could be reported to combat units were intercepted on those networks. Nevertheless, the monitoring of them was necessary because the organization of the Allied air forces could be clearly determined from these networks.

With the appearance of new commitments (e.g., the AEAF) many intercept companies displayed an inclination to absorb themselves in their regular monitoring program and shove the burden of the new traffic on to other units. Here, also, the Referat had to intervene, and to insure that, according to the requirements of the situation, the most important frequencies would be covered by the best personnel.

In many cases Referat B, itself, took over the analysis of new traffic, and only subsequently assigned it to the appropriate evaluation company.

e) Messages and Reports (See Figure No. 5)

The most important headquarters to which the Referat reported were:

- aa) The Luftwaffe General Staff.
- bb) The Chief Signal Officer of the Luftwaffe.
- cc) The Chi-Stelle of the Army.
- dd) The Chi-Stelle of the Navy.
- ee) Luftflotte 5.
- ff) Referat C (for the information of those SIS units working in the South).

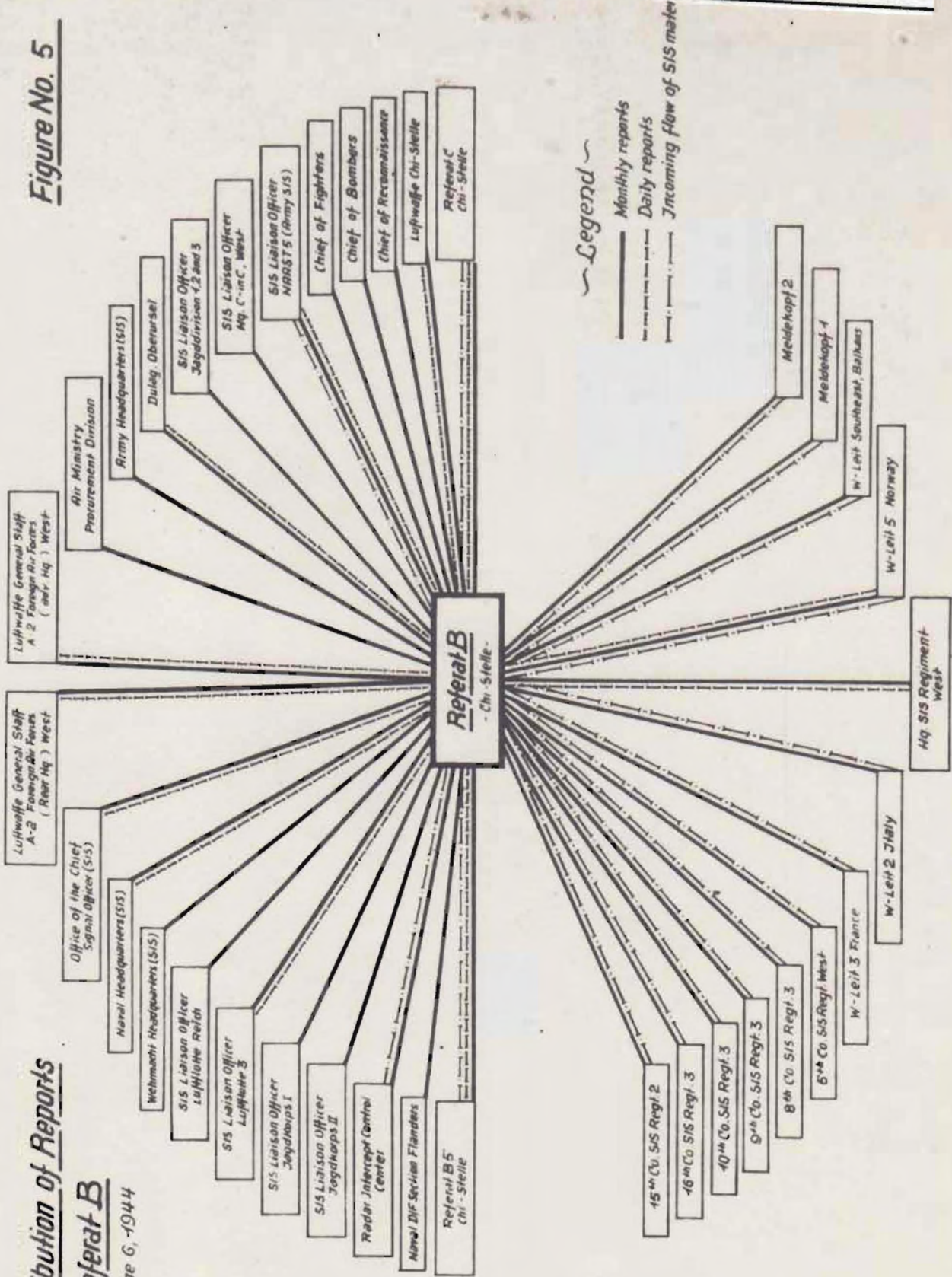
In many cases reports were also sent to the C-in-C West, Luftflotte 3, and NAAST 5, even though these headquarters were served by SIS Regiment, West.

The following types of messages and reports were involved:

- aa) Flash messages (by telephone and teletype) in the case of important new discoveries, intentions of the enemy, movements of Allied units, etc.

Distribution of Reports
of Referat B
 as of June 6, 1944

Figure No. 5



Legend

- Monthly reports
- - - Daily reports
- Incoming flow of SIS mater

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- bb) A daily summary of events of the preceding 24 hours.
- cc) Brief strategic reports prepared every ten days.
- dd) Monthly reports which comprised 50-60 typewritten pages of exhaustive treatment of all events and developments during the month, complete with maps and diagrams.
- ee) Special reports, e.g., on Army-Air Force co-operation during maneuvers in Great Britain, on RAF night fighters, etc.

Moreover, all important information found in captured material was communicated to the individual SIS units. The latter received from Referat B all necessary data such as lists of "X" and "Q" groups, lists of frequencies, call-signs, abbreviations, etc.

3. Referat B 5

In 1941 a section within Referat B was established to monitor America. This in turn, was divided into two-sub-sections. One analyzed traffic which was concerned with the Army and Naval Air Forces of the United States which were then being built up hastily. This traffic was monitored insofar as it could be heard by SIS stations in Germany, France, and Norway. This sub-section reached its peak at the turn of the year 1942-1943, when the fundamentally changed war situation dictated a more conservative use of radio receivers. The second sub-section worked on ferry service traffic on the North Atlantic route at first in connection with Atlantic reconnaissance traffic (Coastal Command). The South Atlantic route, as well as Pan-American Airways traffic in South America, was taken care of until 1942 by Referat C. When the coverage of traffic from the United States proper was reduced, the afore-mentioned sub-section of Referat B took over the monitoring of this South Atlantic commitment from Referat C.

The American ferry service increased in importance, and in the Middle of 1943 this "American" section was taken away from Referat B. Reinforced with

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certain specialist personnel from Referat C it was installed in Munich/Oberhaching as a separate Referat (B5), in which the analysis of all ferry traffic was now combined. At the same time the large W/T intercept platoon located in Oberhaching, which administratively belonged to the Marstall battalion, took over the monitoring of all ferry traffic with the exception of that on the North Atlantic routes, which as previously, continued to be covered by the 16th Company of LNR 3 in Angers. The new Referat evaluated all traffic and had the following responsibilities:

a) The monitoring of the United States proper, which although it only touched the surface, still furnished an insight into the principal networks of the Army and Naval Air Forces, into training activity, air transport, defense zones, and the activation of new combat aviation units.

b) The monitoring of the Atlantic ferry service. The Middle and Central Atlantic routes were monitored by the W/T platoon in Oberhaching and by Luftwaffe SIS out-stations in Spain, which operated under the cover name of "Purchasing Agencies" (See Figure No. 3); the North Atlantic route was monitored by the 16th Co., LNR 3 and reports furnished to the Referat.

c) The monitoring of the American Air Transport Command by the platoon in Oberhaching.

d) The monitoring of the RAF Transport Command, and of both American and RAF troop carrier commands. The greater part of this interception was also done in Oberhaching.

Airfield radio tower traffic (R/T on 6440 kcs.) was intercepted in Madrid, Montpellier and at various SIS out-stations in the Balkans and Italy. This traffic was evaluated by Referat B5, with the aid of extensive files.

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The Referat also had a small cryptanalytic team of its own, which deciphered intercepted messages on the spot.

Referat B5 remained operational until the last weeks of the war, and was thus in a position to cover the British airborne landing at Bocholt. One week before the capture of Munich by the Americans its male personnel withdrew to the Alps, while its women auxiliaries were discharged.

4. Referat C

a) General

When the importance of the Mediterranean theatre increased in the middle of 1942, the totally incapable chief of this Referat was relieved from office at the instigation of the A-2 of the General Staff, and replaced by the Chief of Referat B. At the same time several experienced evaluators were transferred to Referat C in order to assist the younger personnel. The work of these experienced men served to invigorate the Referat, and to enable it to meet its commitments. Their task was made easier by the fact that the education and background of their inexperienced pupils had been, on the average, quite good. In general, the modus operandi was comparable to that in the West. However, in spite of good wire communication to Sicily and Greece, the relatively great distance to the Mediterranean theatre made itself felt in Berlin. Tactical evaluation was lacking and daily reports were always two days behind schedule.

The further development of Referat C was unfavorably influenced by the spirit of mental prostitution pervading the halls of the Marstall since the beginning of the war, nurturing a large class of privileged indolents who assiduously opposed any change or innovation. Thus, during its entire career Referat C produced not one special report; this in spite of the fact that activity in the South pro-

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vided fertile material for such appreciations. To be sure, individual members made notable contributions, but these were insufficient to change the overall complexion of inefficiency. In the beginning of 1943, after the personnel of the Referat had been again increased, this time by the addition of about twenty women auxiliaries, the emphasis shifted entirely to paper work. The members of the Referat buried themselves in the details of a highly specialized daily routine without anyone in the Marstall becoming much acquainted with the real problems facing the SIS battalions in the South.

This condition became even worse during the last two years of the war as duty hours were lengthened, rations became slimmer, and air raids regularly interfered with the night's repose. Political sycophants, the threat of being sent to the front, which at this late date would have been relished by no one, and the fear of a transfer by way of disciplinary action, all served to suppress and curb men and women working twelve hours and more at a stretch, during which time hardly any real work presented itself, the more so since messages arrived ever more irregularly, and reports from the retreating SIS units in the field were growing scarcer and scarcer. After the formation of SIS Regiment, South, a merger of the Referat and the regimental evaluation company was considered. In February of 1945, when the Russians were virtually at the gates of Berlin, it was finally done. A number of the men enlisted in combat units which were intended for the defense of Berlin. In Premstaetten, and later in Attersee, the Referat, now reduced in size, flowered for a short time under a new and energetic chief. However, the collapse of Germany in May brought an end to its activity.

b) Organization

Referat C, similarly to Referat B, was organized into sections which corresponded to Allied units or activities (MATAF, 15th USAAF and 205 Group RAF, long

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range reconnaissance, radar reporting networks, transport and ferry service, and airfield radio tower traffic). In addition, two other sections, one devoted to press reports and prisoner of war intelligence, and the other to point-to-point networks, were especially successful. The two sections, in close co-operation with the other sections dealing with air-to-ground traffic, and making use of all collateral intelligence, collaborated in producing and maintaining a detailed organizational picture of MAAF which the Luftwaffe A-2 used to include in his monthly reports.

The following "sub-Referat" were attached to Referat C:

aa) Turkey

Three men revised and edited the material intercepted and evaluated by W-Leit, Southeast, and prepared weekly and quarter-annual reports for the A-2.

bb) Sweden and Free France

Even the air forces of these countries were monitored in sketchy form by several out-stations and they provided the "raison d'etre" of several evaluators. Here also, reports were prepared for the A-2, sometimes monthly, sometimes less frequently. After the German withdrawal from France this section was united with Referat B.

cc) Referat C 2

This "sub-Referat" was created in 1942, and was engaged in preparing a text-book on the radio and navigational procedures of the British, American and Russian Air Forces. This opus was given wide distribution, and all the larger SIS units were given copies for the edification of SIS personnel. Current supplements kept the work up to date. In the middle of 1944 the project was abandoned and the personnel transferred to SIS out-stations.

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An intercept station in the Marstall, itself, was manned by linguists of Referate C and E. The primary function of this station was to monitor American raids on the greater Berlin area. Since the Marstall was charged with the allocation of VHF receivers, this was the best equipped station of its type. The proximity of the Referate proved advantageous, since the R/T operators manned their sets only during a raid and therefore could devote the balance of their time to evaluation or cryptanalysis. Flash reports were telephoned to Meldekopf 3 in Berlin/Wannsee, while final evaluation reports went to the ZAF.

c) Modus Operandi

Each morning the teletyped material which had come in during the night from the two SIS battalions in Italy and the Balkans, from the company in Montpellier, the SIS stations in Spain, and later from the ZAF, as well as from those out-stations which were authorized direct communication with the Referat, was assorted by the Chief of the Referat and distributed to the appropriate sub-sections. Assembling and checking these reports with any data of their own, the sub-sections, in the course of the forenoon, prepared the daily report of the Referat. After being edited by the evaluation officer, it formed the basis for the daily situation conference at which all controversial points were discussed. It was then mimeographed and around noon was ready for distribution. One copy was sent by courier to the General Staff, the others were mailed to the recipients.

The afternoon as a rule was devoted to the study of incoming reports and a review of the log sheets sent in from the units in the field; maps were prepared, and preliminary work done on the monthly report, the distribution of which corresponded in principle to that of Referat B's reports. Correspondence with the regiments and battalions was taken care of, comments from the General Staff were studied and those relevant were passed on to the field units concerned.

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The Referat achieved considerable success in the field of traffic analysis. By means of network diagrams the organization of the Allied tactical air forces in Italy was worked out at a time when W-Leit 2, in spite of its greater proximity to the situation and its operational experience with the abundant W/T and R/T traffic of XII TAC and DAF, was completely helpless. In general, as clumsiness, distrust, and dodging of responsibility characterized the Chi-Stelle command, so they marked the leadership of Referat C. In order to keep its surplus of personnel occupied, ridiculous and unnecessary tasks, involving a labyrinth of paper work, were invented. As a result, all feeling for straightforwardness and conciseness was lost. The majority of members of the Referat, in spite of years of service in the Chi-Stelle, had never even seen an SIS out-station. This reluctance to face realities naturally weakened the influence of the Referat. In consequence its opinion in organizational matters carried but little weight, and for the most part it was limited to special problems of evaluation.

d) Liaison

Liaison also was limited essentially to the field of evaluation. Thanks to the central location of the Chi-Stelle and personal acquaintanceships, especially with the Luftwaffe A-2, it can be termed as excellent. Prior to the daily conference any new problems, and even all material that had come in during the night, were discussed by telephone between the Referat and the office of the A-2. These discussions also included the Allied air transport and ferry situation as reported by Referat B5 in Oberhaching.

When American radio stations appeared on airfields in the Poltava area, and American bombers and their fighter escort, following attacks on Germany or Rumania, landed at these airfields, an evaluator of Referat C was dispatched to Referat D in Warsaw. Furthermore, a large intercept platoon was transferred from

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the West to Warsaw to monitor this traffic. However, the results were rather insignificant and after four months the W/T platoon was recalled.

In 1944 the Referat placed a liaison officer with Dulag Luft. This resulted in many new bits of collateral intelligence, as well as important confirmation of information previously obtained from signal intelligence.

In the last months of the war the Referat was merged with the evaluation company of SIS Regiment, South. Thus was finally achieved the correct solution to the problem, a solution which had appeared obvious as far back as 1942.

5. The Radar Intercept Control Center (Funkleitstand)

This unit did not have its origins with the Luftwaffe SIS, but rather with the German Radar Service. It harked back to the days of 1940 and 1941 when the German Post Office (Reichspost) and the Luftwaffe Procurement Division were conducting radar intercept experiments on the Channel coast. At the instigation of Colonel Nebel, radar specialist of the German Air Ministry, an organization called the "Funkleitstand" was created in Potsdam-Eiche at the end of 1942. It was intended that this unit should study and explore the following fields:

- a) Enemy ground radar;
- b) Enemy airborne radar and navigational aids;
- c) Enemy radio and radar jamming techniques.

The unit was likewise commissioned to work out a plan for German jamming operations, and later to supervise its execution.

The Luftwaffe SIS early assured itself of exercising influence over the "Funkleitstand" which was originally conceived as a sort of Chi-Stelle for the Radar

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Service. This was made easier by the fact that the SIS had at the same time created radar intercept centers (Funkbefehlsstaende) at the individual SIS battalions. These were intended to perform locally the same functions as the Radar Intercept Control Center in Potsdam. After much haggling and wrangling over the question of control of the latter organization it was finally placed under the administrative command of Lt.Col. Friedrich, operational control being retained by the Radar Service. The continuation of this dual control was finally terminated in 1944, when the radar intercept centers were incorporated into the evaluation companies of their respective SIS battalions, and radar intercept flash messages sent directly to the Meldekoepfe. Thus the Radar Intercept Control Center was limited principally to the field of evaluation. Even here it was by far overshadowed by the "Navigational Aids" section of Referat B, owing to the latter's seniority, and the far more important material it had at its disposal. In the summer of 1944, following the incorporation of Referat B into SIS Regiment, West, its navigational aids section was merged with the Radar Intercept Control Center.

After the creation of the ZAF, the position of "Chief of the Jamming Service" was established in the office of the "Funkaufklaerungsfuehrer Reich". In the case of air raids on Germany this man, in consultation with the Radar Intercept Control Center, was charged with directing German jamming operations.

The Radar Intercept Control Center also advised the Chi-Stelle on matters pertaining to equipment for the radar intercept out-stations. In practice it was a Referat for radar intercept, even though there was also a radar intercept specialist within each of the Referate dealing with foreign countries. The whole manner in which the radar intercept problem was treated is indicative of the confusion, bumpiousness

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and lack of co-ordination which prevailed in all higher headquarters in Germany during the last two years of the war.

When Berlin was threatened by the Russian advance the Radar Intercept Control Center withdrew to Oberhaching; as the Americans approached Munich it retreated to the Alps where a finis was written to its activities.

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